

spatial variation (uniform or localized), 2) temporal variation (continuous or periodic), 3) positional variation (interior or exterior), and 4) rate variation (constant or enhanced). Utilization of the model is facilitated by two 16-way contingency diagrams (containing factor permutations) that aid identification of either depositional or resorptive events. The shape, surface area, and number of secretory cells along the mantle edge are important features influencing shell growth. Regions of mantle tissue responsible for shell fabric manipulation can be thought of as essentially receiving temporally variable "on-off" commands that are environmentally modulated or intrinsically coded by the organism. Calcium carbonate accumulations are due to changes in depositional rate and/or changes in mantle tissue advancement rate. Particular features of shell ornamentation, such as a spine, spiral cord, or varix, can be conceptually analyzed in the framework of depositional or resorptive modification of spatial, temporal, positional, and rate components of growth. Biologically plausible but physiologically costly methods of creating shell ornamentation are identified. Interior architectural reorganization by allocation of carbonate resources to other shell regions is contrasted with "background" shell deposition. Considering a series of controlling factors for calcium carbonate manipulation (such as phylogeny or environment), the growth histories of fossil gastropods (or other molluscan classes) can be described and interpreted for paleobiological significance. The implications of this model for evolutionary malacology lie in a better understanding of functionally and taxonomically important components of shell growth.

#### COMPUTERIZATION OF TAXONOMIC CATALOGUES.

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Indispensable to the practicing taxonomist, catalogues of available scientific names have previously been published as reports in the professional literature. Recent advances in microcomputer technology permit a more flexible method of producing catalogues with several advantages over traditional publication: 1) Information storage is more efficient and flexible. New taxa are easily entered, errors are easily corrected, and the computer sorts entries to the catalogues desired format. 2) Valuable journal space is not occupied by material of interest to relatively few workers. Print-outs can be inexpensively distributed to users, and the professional journal need only announce availability of the catalogue. 3) The catalogue is always up to date, as the latest information entered is incorporated into the pre-existing catalogue. Each recipient receives the latest available, dated printout.

**ADMINISTERING A SHELL CLUB SCHOLARSHIP PROGRAM.** **Wesley Thorsson** and **Stuart Lillico**. Hawaiian Malacological Society, Honolulu, Hawaii.

The Hawaiian Malacological Society is a nonprofit educational organization. For its first 30 years this educational factor was limited almost entirely to upgrading *Hawaiian Shell News* as a vehicle for reporting and discussing progress in malacology. This function is still paramount but since about 1972 the Society has been increasingly involved in giving direct financial assistance to students of malacology.

The Society in the past decade has committed close to \$20,000 in prizes, awards and grants.

Two major obstacles have had to be overcome. The first, and in many ways the most difficult, was in reaching agreement that this was a proper use for the Society's assets. There is still some resistance. The second continues to be the problem of making the program known.

Since 1978 the Society has had four award programs in effect. These are, first, annual awards to high school and grade school participants in the Hawaii State Science and Engineering Fair; second, the E. R. Cross Awards to young exhibitors in the biennial HMS Shell Shows; and, third, grants to undergraduate and graduate students engaged in programs leading to involvement in malacology. The fourth assists the B. P. Bishop Museum.

Our major award program, which assists advanced students of malacology, has been financed primarily by proceeds from HMS shell auctions and a portion of the interest earned on HMS assets. To date these awards to college students or their equivalent total \$16,993.

The Society's fourth and newest program, set up two years ago, is designed to assist Hawaii's B. P. Bishop Museum. Interest from approximately \$16,000 of the Society's assets was earmarked for the museum's benefit, and early in 1983 \$1800 was voted as partial funding for an individual to assist in clearing the backlog of curatorial tasks in the Malacology Department of the Museum.

Our scholarships normally support projects that will contribute to malacological knowledge in general and to the ecological and conservation goals of the Society in particular, as well as contributing to the candidate's academic progress. Possibly most significant has been the number of projects in mariculture.

One ambition remains unfulfilled. We would like eventually to see a study center established for the benefit of amateur malacologists—preferably in Honolulu, of course. We believe such a center would serve as a significant bridge between serious amateur shell collecting and professional malacology.